ABSTRACT OF THE INVENTION

An apparatus and a method having a low sampling clock frequency for converting a digital signal having IF frequency channels to an analog IF signal. A DAC uses the sampling signal for converting the digital signal to the analog IF signal. A high-low RFLO signal generator generates an RFLO signal that is controlled to switch between a first RFLO frequency below a desired RF frequency band and a second RFLO frequency above the desired RF frequency band. The RF upconverter uses the first RFLO frequency for upconverting IF frequency channels into RF frequency channels in the lower half of the RF frequency band and uses the second RFLO frequency for upconverting the same IF frequency channels into different RF frequency channels in the upper half of the RF frequency band, thereby enabling the DAC to use a lower frequency sampling signal.